Start-up/Service Instructions
for use by heating contractor

VIESMANN

Vitola 200
VB2 Series
Oil-/Gas-Fired Boiler

Heating input 83 to 300 MBH
24 to 88 kW

VITOLA 200

IMPORTANT

Read and save these instructions for future reference.

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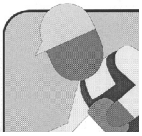
Safety, Installation and Warranty Requirements

Please ensure that this manual is read and understood before commencing installation. Failure to comply with the issues listed below and details printed in this manual can cause **product/property damage**, **severe personal injury**, and/or **loss of life**. Ensure all requirements below are understood and fulfilled (including detailed information found in manual subsections).

■ **Licensed professional heating contractor**
The installation, adjustment, service, and maintenance of this equipment *must be* performed by a licensed professional heating contractor.

► *Please see section entitled "Important Regulatory and Installation Requirements."*

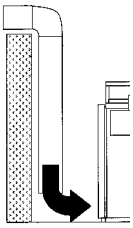


■ **Contaminated air**
Air contaminated by chemicals can cause by-products in the combustion process which are *poisonous* to inhabitants and destructive to Viessmann equipment.

► *For a listing of chemicals which cannot be stored in or near the boiler room, please see section entitled "Combustion Air Supply" in Installation Instructions.*

■ **Fresh air**
This equipment requires fresh air for safe operation and must be installed ensuring provisions for *adequate combustion* and *ventilation air* exist.

► *For information pertaining to the fresh air requirements of this product, please see section entitled "Combustion Air Supply." in Installation Instructions.*



■ **Product documentation**
Read all applicable documentation before commencing installation. Store documentation near boiler in a readily accessible location for reference in the future by service personnel.

► *For a listing of applicable literature, please see section entitled "Important Regulatory and Installation Requirements."*

■ **Carbon monoxide**
Improper installation, adjustment, service and/or maintenance can cause flue products to flow into living space. Flue products contain *poisonous* carbon monoxide gas.

► *For information pertaining to the proper installation, adjustment, service and maintenance of this equipment to avoid formation of carbon monoxide, please see sections entitled "Combustion Air Supply" and "Venting Connection" in Installation Instructions.*

■ **Equipment venting**
Never operate boiler without an *installed venting system*. An improper venting system can cause carbon monoxide poisoning.

► *For information pertaining to venting and chimney requirements, please see section entitled "Venting Connection" in Installation Instructions. All products of combustion must be safely vented to the outdoors.*

■ **Advice to owner**
Once the installation work is complete, the heating contractor must familiarize the system operator/ultimate owner with all equipment, as well as safety precautions/ requirements, shut-down procedure, and the need for professional service annually before the heating season begins.

⚠ WARNING

Installers must follow local regulations with respect to installation of carbon monoxide detectors. Follow manufacturer's maintenance schedule of boiler.

■ **Warranty**
Information contained in this and related product documentation must be read and followed. *Failure to do so renders warranty null and void.*

Safety, Installation and Warranty Requirements (continued)

Please ensure that this manual is read and understood before commencing installation. Failure to comply with the issues listed below and details printed in this manual can cause **product/property damage**, **severe personal injury**, and/or **loss of life**. Ensure all requirements below are understood and fulfilled (including detailed information found in manual subsections).

■ **Fiberglass wool and ceramic fiber materials**

⚠ WARNING

Inhalation of fiberglass wool and/or ceramic fiber materials is a possible cancer hazard. These materials can also cause respiratory, skin and eye irritation.

The state of California has listed the airborne fibers of these materials as a possible cancer hazard through inhalation. When handling these materials, special care must be applied.

Suppliers of ceramic fiber products recommend the following first aid measures:

- *Respiratory tract (nose and throat) irritation*
  If respiratory tract irritation develops, move the person to a dust free location.
- *Eye irritation*
  If eyes become irritated, flush immediately with large amounts of lukewarm water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes.
- *Skin irritation*
  If skin becomes irritated, remove soiled clothing. Do not rub or scratch exposed skin. Wash area of contact thoroughly with soap and water. Using a skin cream or lotion after washing may be helpful.
- *Gastrointestinal irritation*
  If gastrointestinal tract irritation develops, move the person to a dust free environment.

Suppliers of fiberglass wool products recommend the following precautions be taken when handling these materials:

Precautionary measures

- Avoid breathing fiberglass dust and contact with skin and eyes.
- Use NIOSH approved dust/mist respirator.
- Wear long-sleeved, loose fitting clothing, gloves and eye protection.
- Wash work clothes separately from other clothing. Rinse washer thoroughly.
- Operations such as sawing, blowing, tearout and spraying may generate airborne fiber concentration requiring additional protection.

First aid measures

- If eye contact occurs, flush eyes with water to remove dust. If symptoms persist, seek medical attention.
- If skin contact occurs, wash affected areas gently with soap and warm water after handling.

■ **Hazardous materials**

⚠ WARNING

Appliance materials of construction, products of combustion and the fuel contain alumina, silica, heavy metals, carbon monoxide, nitrogen oxides, aldehydes and/or other toxic or harmful substances which can cause serious injury or loss of life and which are known to the State of California to cause cancer, birth defects and other reproductive harm. Always use proper safety clothing, respirators and equipment when servicing or working nearby the appliance.

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Important Regulatory and Installation Requirements

Instructing the system user
The installer of the system is responsible to ensure the system operator/ultimate owner is made familiar with the system functioning, its activation, its shut-down, and the need for periodic service.

→ *The following topics must be covered: Proper system operation sequence. Explain the equipment as well as the need for combustion air. Demonstrate an emergency shut-down, what to do and what not. Explain that there is no substitute for proper maintenance to help ensure safe operation.*

Initial start-up
Initial start-up must be performed by a qualified heating contractor; values and calibrations specified in the burner test sheet are to be verified at this time. Completion of the Maintenance Record by the heating contractor is also required.

Working on the equipment
The installation, adjustment, service, and maintenance of this boiler must be done by a **licensed professional heating contractor** who is qualified and experienced in the installation, service, and maintenance of hot water boilers. There are no user serviceable parts on the boiler, burner, or control.

Ensure **main power** supply to equipment, the heating system, and all external controls has been **deactivated**. **Close** main **oil or gas supply valve**. Take precautions in both instances to avoid accidental activation of power during service work.

→ *Please carefully read this manual prior to attempting start-up, maintenance or service. Any warranty is null and void if these instructions are not followed.*

For information regarding other Viessmann System Technology componentry, please reference documentation of the respective product.

We offer frequent installation and service seminars to familiarize our partners with our products. Please inquire.

Technical literature
Literature applicable to all aspects of the Vitola:
- Technical Data Manual
- Installation Instructions
- Start-up/Service Instructions
- Installation codes mentioned in this manual

→ *Leave all literature at the installation site and advise the system operator/ultimate owner where the literature can be found. Contact Viessmann for additional copies.*

About these Service Instructions

Take note of all symbols and notations intended to draw attention to potential hazards or important product information. These include "WARNING", "CAUTION", and "IMPORTANT". See below.

WARNING
Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial product/property damage.

→ *Warnings draw your attention to the presence of potential hazards or important product information.*

CAUTION
Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product/property damage.

→ *Cautions draw your attention to the presence of potential hazards or important product information.*

IMPORTANT

→ *Helpful hints for installation, operation or maintenance which pertain to the product.*

→

→ *This symbol indicates that additional, pertinent information is to be found in column three.*

→ *This symbol indicates that other instructions must be referenced.*

Necessary Tools

Special Items
Approved leak detection fluid

Testing/analysis equipment
Flue gas analyzer

Use only calibrated equipment.

Cleaning supplies
Hand brush
Rags
Vacuum cleaner
Cleaning brush (Standard equipment)

Parts
Rope sealant for combustion chamber door
Refractory for combustion chamber door
Burner refractory for combustion chamber

Technical information
Operating Instructions of boiler and all accessories
Parts List of each accessory

Initial Start-up

See Operating Instructions, Service Instructions of Power Burner and Boiler Control

1. Ensure combustion and ventilation air openings of boiler room are open and that chimney and all flue pipes are connected, sealed and unobstructed inside. Verify that all requirements in the Combustion Air Supply section of the boiler Installation Instructions are met.

WARNING

Keep boiler clear and free from combustible materials, gasoline, and other flammable vapors and liquids. Do not obstruct the flow of combustion and ventilation air.

2. Ensure proper operation of expansion tank (see Maintenance/Service manual).

→ *If the nitrogen pressure of the precharged expansion tank is less than the static pressure of the system, inflate membrane pressure to slightly exceed pressure of system. The static pressure required at the tank is based upon the static height of the system.*

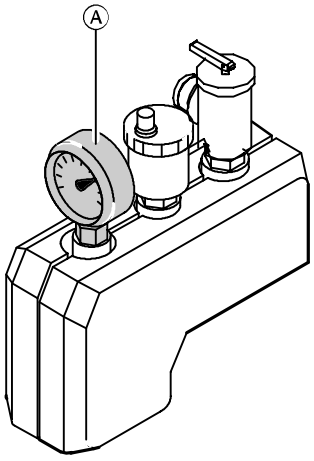
3. Ensure that system piping is flushed out to remove debris and/or sludge. Failure to do so could cause settlement in the boiler causing overheating and damage not covered by warranty.

4. Fill heating system with water and bleed out air completely. Ensure complete system is properly vented of air.
Max. system operating press. ..... < 30 psig
Pressure relief discharge press. ..... 30 psig

→ *Water treatment should be considered in areas where it is known that boiler feed water contains a high mineral content and hardness.*

In areas where freezing might occur, an antifreeze may be added to the system water to protect the system. Please adhere to the specifications given by the antifreeze manufacturer. Do not use automotive silicate-based antifreeze.

Please observe that an antifreeze/water mixture may require a backflow preventer within the automatic water feed and influence components such as diaphragm expansion tanks, radiation, etc. A 40% antifreeze content will provide freeze-up protection to -10°F / -23°C. Do not use antifreeze other than specifically made for hot water heating systems. System also may contain components which might be negatively affected by antifreeze. Check total system frequently when filled with antifreeze.



5. Perform a pressure test of the boiler and the water piping. Pressure test must not exceed 1½ times the maximum system operating pressure (45 psig Ⓐ) of the boiler. Pressure relief valve must be removed during pressure test. Any leaks must be corrected.

6. Ensure fuel proper/adequate fuel supply exists; open oil or gas shut-off valve.

WARNING

DO NOT USE GASOLINE CRANKCASE DRAININGS OR ANY OIL CONTAINING GASOLINE.

7. Verify completeness of all discussion points on the following pages in the section entitled Service before starting up system.

Service

1. Shut down heating system

1. Ensure main power supply to equipment, the heating system, and all external controls has been deactivated. Take precautions in both instances to avoid accidental activation.

2. Close main gas or oil supply valve near burner (and near oil tank if applicable).

⚠ WARNING

Always keep the manual fuel supply valve shut off if the burner is shut down for an extended period of time.

2. Open combustion chamber door

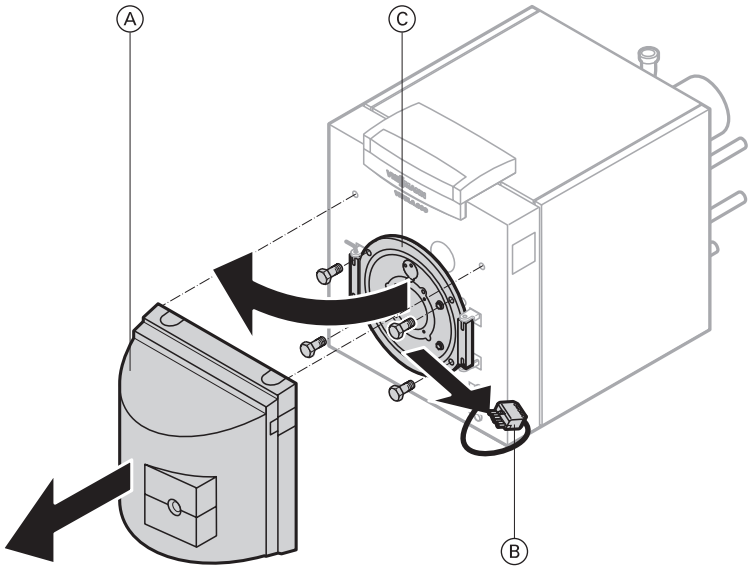


Illustration shows Viessmann Chassis Burner installed on Vitola 200 boiler.

1. Disconnect and remove burner hood Ⓐ (Viessmann Chassis burner only).

2. Disconnect 41 Ⓑ plug-in connector from burner.

IMPORTANT

Disconnect gas supply piping if a gas burner is installed.
Remove oil lines if an oil burner is installed.

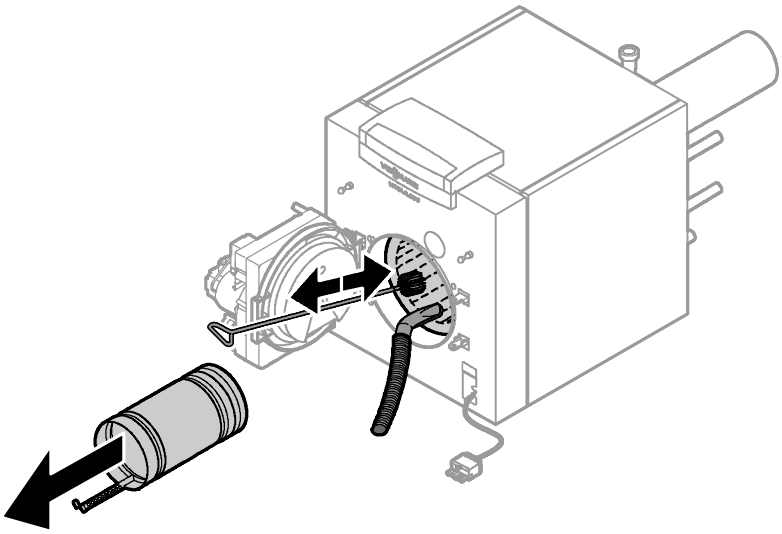
3. Remove four bolts of combustion chamber door Ⓒ and open (hinge pin must remain inserted).

⚠ WARNING

Never burn garbage or paper in the unit, and never leave combustible material around it.

Service *(continued)*

3. Clean chimney, flue pipe and heat exchanger



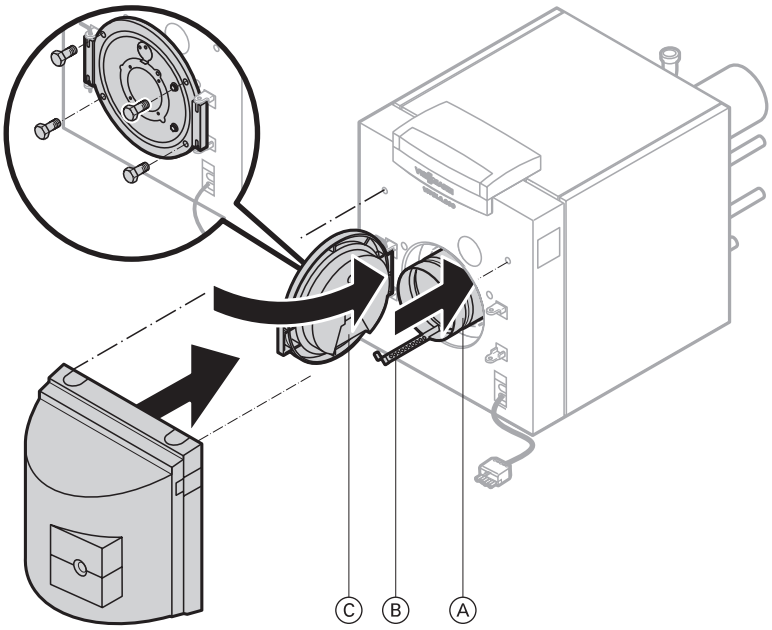
1. Check flue pipe condition, chimney connection, and chimney itself, both inside and outside, for rust, deterioration, blockage, or leakage. Repair or replace as necessary.
2. Ensure combustion and ventilation air openings of boiler room are open and unobstructed.
3. Remove combustion chamber insert Ⓐ and clean.
4. Clean heat exchanger surfaces with the cleaning brush Ⓑ and using a vacuum cleaner.

4. Check all gaskets and insulation

1. Check all gaskets and the sealant rope of the combustion chamber door for wear or damage.
2. Check the combustion chamber door refractory and burner refractory for wear or damage.
3. Replace worn or damaged parts.

Service *(continued)*

5. Close combustion chamber door



1. Push in combustion chamber insert Ⓐ as far as it will go. Handle Ⓑ must be at bottom.

IMPORTANT

The combustion chamber insert has a lip at the back. Push combustion chamber insert into combustion chamber so that lip slides into matching notch at the back of the combustion chamber. Failure to do so will damage door refractory when door is closed.

2. Close combustion chamber door Ⓒ and tighten four bolts in a cross-wise fashion.

3. Reconnect burner fuel line(s).

4. Mount burner hood (if applicable).

WARNING

Reconnect oil burner and follow instructions found in burner installation/start-up manual.

WARNING

For gas burner, perform necessary leak detection tests.

6. Check heating system and domestic hot water connections

Ensure all connections are pressure tight.

7. Ensure proper operation of all safety devices

Ensure proper operation of low water cut-off(s), pressure relief valve, and pump(s).

Flush float type low water cut-offs (if used).

If oil-lubricated pumps are used, ensure proper lubrication.

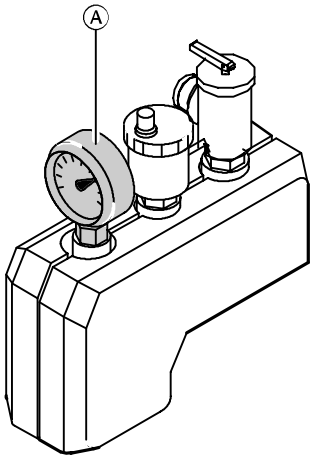
If motorized zone valves are used, check and service as necessary.

Refer to manufacturer's instructions for each of the components listed above.

Follow local regulations with respect to backflow preventers.

Service *(continued)*

8. Ensure proper operation of automatic fill valve and expansion tank; also ensure proper system water pressure



IMPORTANT

Check fill pressure when system is cold.

Ensure proper operation of automatic fill valve and expansion tank.

If a non-diaphragm expansion tank is used, ensure the correct water level is present (expansion tank should be $^{2}/_{3}$ full).

The usual water fill pressure is between 10 and 15 psi with the system cold. Check pressure gage Ⓐ on safety header. All leaks must be corrected.

Refer to manufacturer's instructions for each of the components listed above.

CAUTION

This boiler is not for use in systems where water is constantly or frequently replenished. Minerals such as calcium in make-up water can deposit on heat exchanger causing overheating, and eventually the boiler will leak. This type of failure is not covered by warranty. Water must not be drained from system for use by cleaning personnel.

9. Ensure enclosure panels are correctly fitted

1. Ensure all enclosure panels are seated properly; adjust as necessary.
2. Ensure strain reliefs on rear panel are tight and seated properly.

10. Ensure mixing valve(s) rotates easily and is pressure tight (if installed)

1. Remove mixing valve lever.
2. Check if mixing valve rotates easily.
3. Ensure mixing valve is pressure tight (does not leak). Replace O-Ring seals if necessary.
4. Reinstall mixing valve lever.

Service *(continued)*

11. Ensure that an adequate combustion air supply exists in the boiler room

Ensure fresh air intake of boiler room is open. This opening must never be blocked or partially covered.

12. Ensure functionality of the barometric draft regulator of the burner

During operation of the burner, the barometric installed in the vent system must move freely.

13. Calibrate the burner

Service Instructions
Burner

⚠ WARNING

DO NOT START THE BURNER UNLESS THE COMBUSTION CHAMBER DOOR IS SECURED IN PLACE.

⚠ CAUTION

When the boiler is fired for the first time, the ceramic fiber insulation on the back of the combustion chamber door will require ½ to 1 hour to firing time to "cure." An odor may occur during this time. Final measurements of CO must be done only after the "cure" is complete.

⚠ WARNING

DO NOT ATTEMPT TO START THE BURNER WHEN EXCESS OIL HAS ACCUMULATED IN THE COMBUSTION CHAMBER, WHEN THE UNIT IS FULL OF VAPOR, OR WHEN THE COMBUSTION CHAMBER IS VERY HOT.

⚠ WARNING

DO NOT USE GASOLINE CRANKCASE DRAININGS OR ANY OIL CONTAINING GASOLINE.

14. For systems subject to freezing temperatures

⚠ CAUTION

If the system is subject to freezing temperatures and is not filled with antifreeze for protection, the system including the boiler must be drained of water. The valve before automatic feed valve (if installed) must be closed; all other valves, air vents, and drain valves must stay open.

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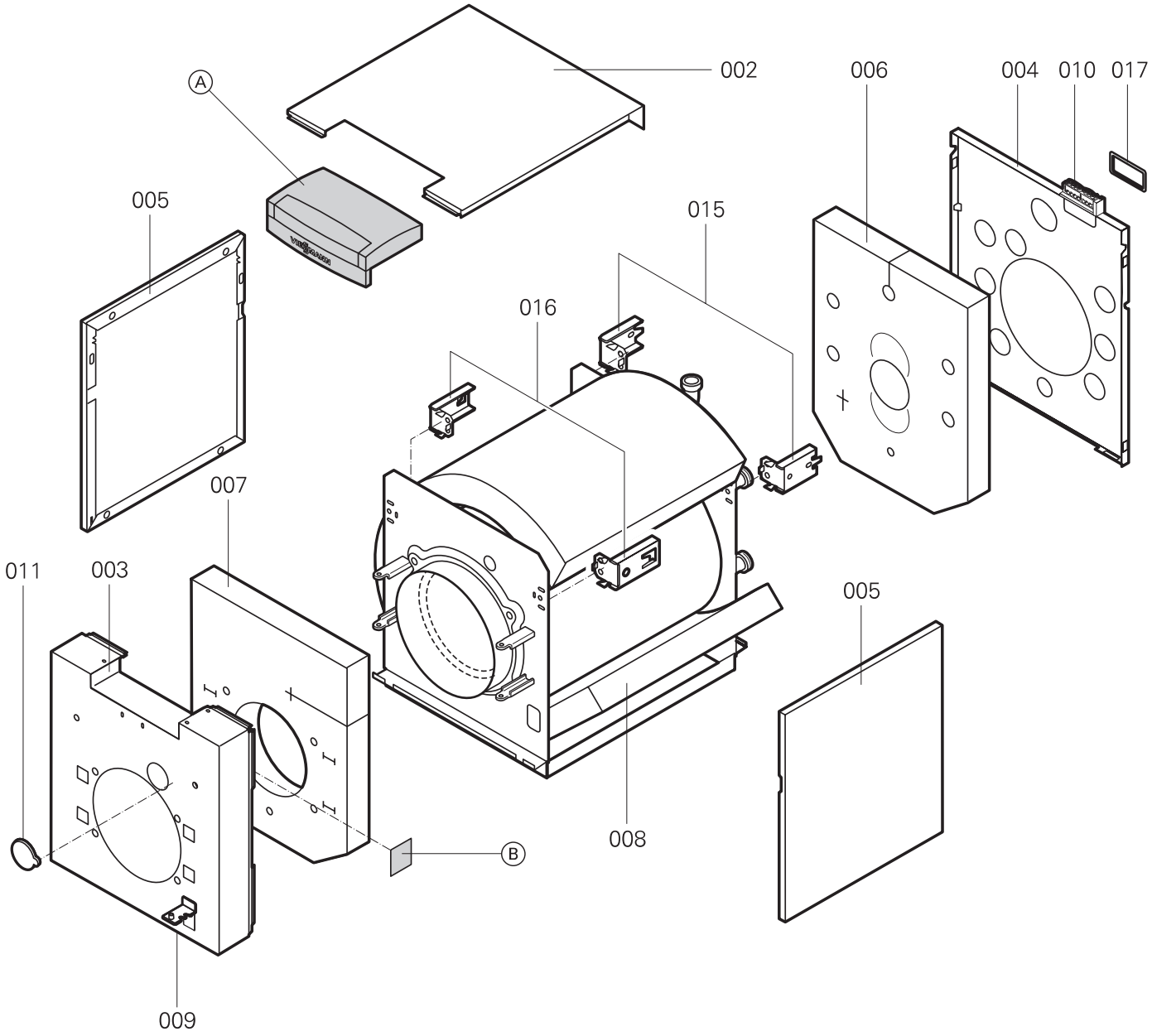
Parts List

Ordering Replacement Parts:
Please provide boiler Model and Serial Number from rating plate when ordering replacement parts. Order replacement components from your Viessmann distributor.

Parts

001 Insulation jacket (entire insulation assembly)
002 Top panel
003 Front panel
004 Rear panel
005 Side panels right and left
006 Rear insulation blanket
007 Front insulation blanket
008 Pressure vessel insulation blanket
009 2-Channel strain relief
010 8-Channel strain relief
011 Cover
015 Mounting bracket, rear
016 Mounting bracket, front
017 Edgemolding cover
Ⓐ Boiler control, see separate Parts List
Ⓑ Rating plate



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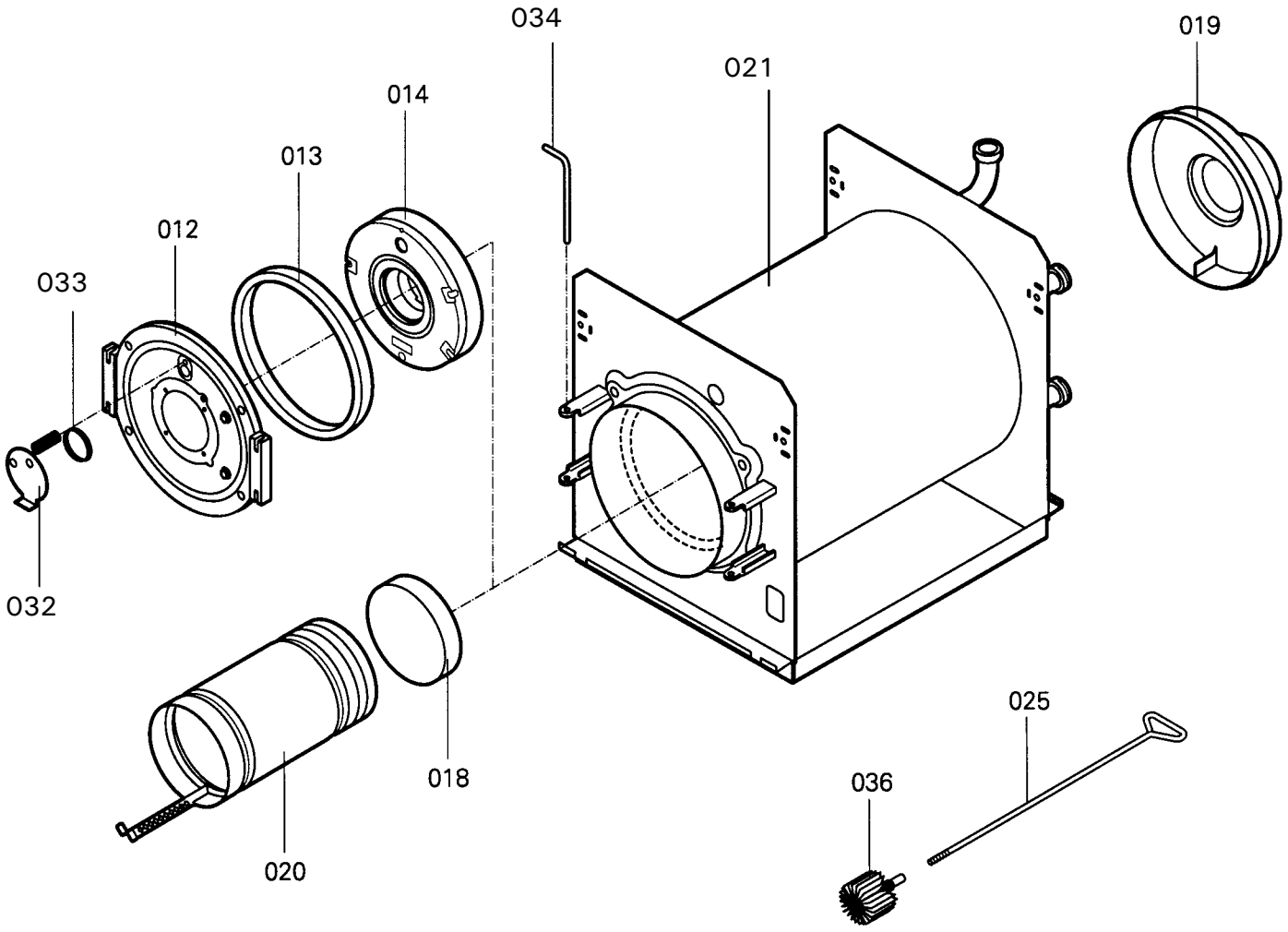
Parts List *(continued)*

Parts List

012 Combustion chamber door
013 Packing seal
014 Combustion chamber door refractory
032 Observation port cover
033 Rope seal
034 Door pin
018 Combustion chamber refractory
019 Flue gas collector (order 027 Sealant)
020 Combustion chamber insert
021 Boiler shell
025 Cleaning brush handle
036 Cleaning brush head

Not illustrated
026 Insulation accessories
027 Flue outlet sealant
028 Spray paint, vitosilver
029 Touch-up pen, vitosilver
030 Installation Instructions
031 Start-up/Service Instructions



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Notes

Maintenance Record

	Start-up	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
on:					
by:					

	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
on:					
by:					

Before each heating season begins, have the following service and maintenance done by a licensed, professional heating contractor:

1. Boiler heat exchanger inspected and cleaned.
2. Vent system inspected for deterioration, leaks, corrosion, proper draft, and proper operation. Check vent system for compliance with local and national code requirements. Repair or replace as required.
3. Burner checked, and if necessary, adjusted for proper combustion and operation. Check for adequate supply of fresh outside combustion and ventilation air.

⚠ WARNING

Neglecting to perform necessary maintenance can cause unsafe operation.

Operating Instructions

To operate boiler, please follow all instructions located in the Operating Instructions and User's Information Manual of the Power Burner and the Boiler Control

Printed on environmentally friendly (recycled and recyclable) paper.

Technical information subject to change without notice.

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